

SCREENS

IN STEEL, BRONZE
AND ALUMINUM

CECO

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CECO WINDOW AND DOOR SCREENS

CECO OFFERS A COMPLETE LINE OF QUALITY PRODUCTS—This catalog deals specifically with Ceco steel, bronze, and aluminum window and door insect screens complete with all necessary hardware and fittings. The Ceco organization also offers to the construction industry a complete line of related products—see Index. Ceco's 29 years of experience, its standards of rigid inspection and fine quality materials stand behind every one of these products.

WIDE RANGE AND ADAPTABILITY—The Ceco line of Insect Screens is so complete and so flexible that every type of window or door from those of the

small residences to the largest commercial or institutional building, may be adequately and economically equipped. All Steel Windows can be most economically screened with shop-fitted Ceco Screens.

CECO BRANCHES AND SERVICE—The Ceco organization fully appreciates the importance of prompt delivery. Ceco manufacturing facilities have been constantly expanded to assure adequate service. Branch Warehouses and Sales Offices are strategically located throughout the United States (see back cover). You are invited to utilize the Ceco design, engineering, and manufacturing facilities.

BONDERIZING . . . FOR PROTECTION AGAINST RUST

Twin causes of increased maintenance costs are corrosion of metal surfaces underlying paint and the lack of sufficient bond between the paint and the metal itself. The "Bonderizing" process now offered by Ceco gives protection against these problems of paint failure and rust on metal surfaces that are subjected to severe exposure.

In the "Bonderizing" process, a phosphate coating is produced on the metal surface. This coating, known as "Bonderite," is a crystalline structure integral with the metal. Bonderite forms an effective barrier against moisture because it is insoluble in water. In addition, the countless interstices between the microscopic crystals permit paint to penetrate and form strong "keys." The result is a durable, weatherproof surface.

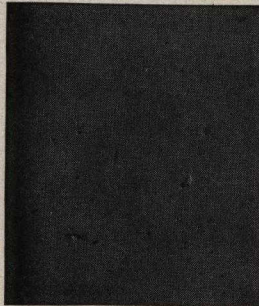
NOTE: Bonderizing is standard on Ceco Case-ment and Basement Screen Frames. Other Ceco screen

products can be Bonderized at slight extra cost when the following is included in the specifications:

BONDERIZING—After fabrication, provide a clean, grease-free surface for chemical treatment by thoroughly cleaning screen frames in a hot alkali solution to remove all oil, grease, and foreign matter. The screen frames shall then be rinsed in hot water and processed by Bonderizing.

This shall be followed by a rinse in cold water and then a rinse in a dilute solution of chromic acid.

The screen frames shall then be immediately dried and brought to a uniform temperature proper for painting. Paint shall be of a character especially adapted to materials coated with phosphates. Paint shall be a part of the continuous process. Screen frames shall be oven dried for at least 30 minutes at a temperature of not less than 300 degrees.



A Bonderized panel of steel after exposure to six months of sub-tropical atmosphere.



A panel not Bonderized, after same six months of sub-tropical atmosphere.

CECO BONDERIZING EQUIPMENT

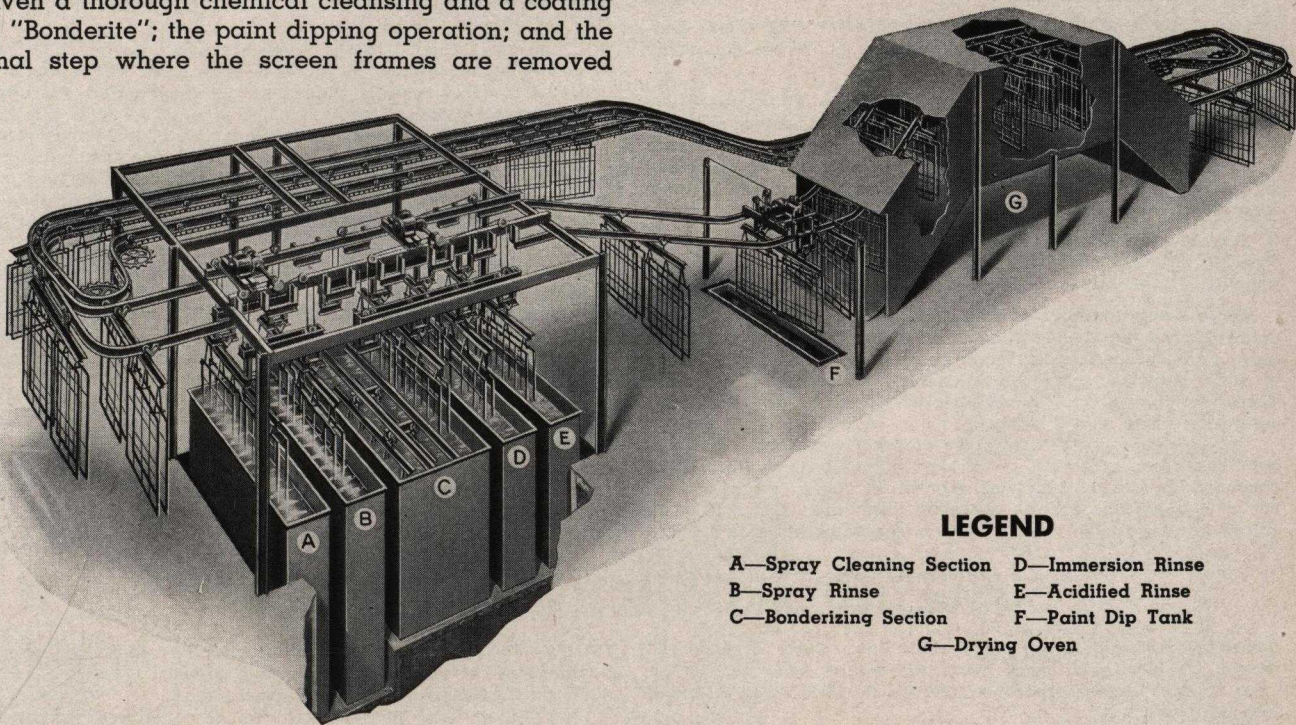
The diagrammatic rendering below shows the various steps in the Ceco Bonderizing process. The three lower photographs, left to right, show the dipping processes where Ceco Steel Screen Frames are given a thorough chemical cleansing and a coating of "Bonderite"; the paint dipping operation; and the final step where the screen frames are removed

from the conveyor, after the paint has been scientifically baked on.

This modern, costly equipment is installed at Ceco's manufacturing division plant in Chicago.

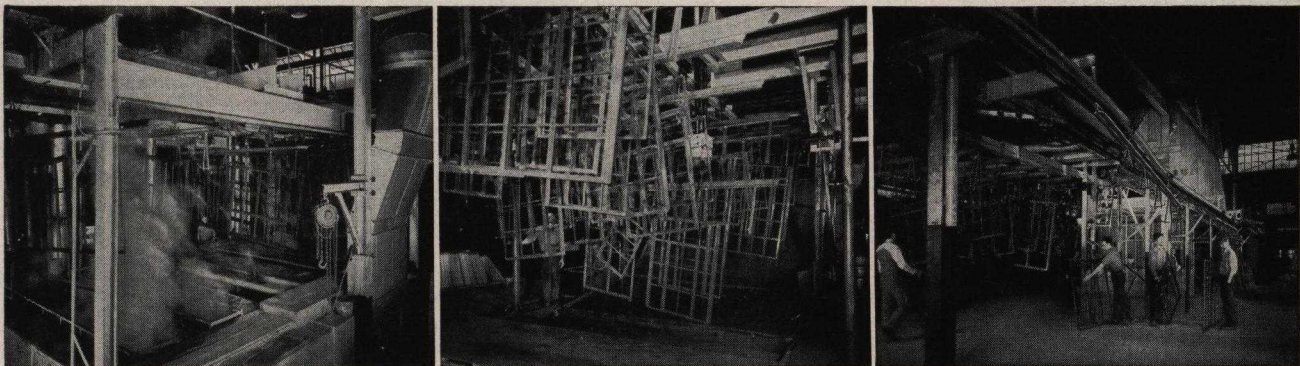
It assures a rugged finish on all Ceco Screen Frames to resist rust and provide greater durability.

The combination of Bonderizing and baked-on paint protects Ceco Screen Frames throughout many years of weathering and hard usage.



LEGEND

- | | |
|--------------------------|-------------------|
| A—Spray Cleaning Section | D—Immersion Rinse |
| B—Spray Rinse | E—Acidified Rinse |
| C—Bonderizing Section | F—Paint Dip Tank |
| | G—Drying Oven |



SCREENS FOR WINDOWS AND DOORS

ROTO TYPE CASEMENTS (Details at Right, Page 7)—Screens for Steel Casement Windows with under-screen Roto Type Operators are of Tubular Construction lying flat against the casement frame. Screens are attached with C shaped clips and screws, detail 5, or with swivel clips and sill clips, details 1, 4 and 6.

SIMPLEX TYPE CASEMENTS (Details at Left, Page 7)—Screens for Simplex Steel Casements are Open Frame Construction with sufficient depth to clear the locking handles. A horizontally sliding panel or wicket in the screen construction gives access for manual operation of the window locking hardware. Screens are fastened with swivel clips at sides and sill clip at bottom or optional spring tension clips.

ARCHITECTURAL AND COMMERCIAL PROJECTED WINDOWS—Several methods of screening to suit various hardware equipment are illustrated on pages 8, 9, and 10.

Project-in Windows (Detail at Left, Page 8)—Screens are Tubular Frame construction with extension legs to allow sufficient space for the normal projection of the lower vent bar of the sash when opened. Screens are hung at top and fastened at bottom by inside spring bolts to facilitate easy removal and replacement from inside the building.

Project-in Windows (Detail at Left, Page 9)—Similar to the Tubular type described above except of the Open Frame Construction. Especially applicable where cost is a factor.

Project-out Windows (Detail at Right, Page 8)—For Project-out Windows equipped with under-screen push bar operators only. Screens are Tubular Frame construction with extension legs to allow sufficient space for the normal projection of the upper vent bar of the sash when opened. Screens are stationary secured in place with C clamps.

Where Project-out Windows are equipped with both cam locking handle and pole ring, a Tubular Frame section with welded extension flanges is provided (Detail at Right, Page 10) of sufficient depth to clear the operating hardware. This box frame screen is hung at the top to swing in to give access to either the

cam locking handle or pole ring. Screen is fastened with two bullet catches at jambs and pull clip located at center bottom for hand or pole operation.

Project-out Windows (Detail at Left, Page 10)—For Project-out Windows equipped with cam locking handles (no pole ring) similar in general to Tubular Frame described above except of Open Frame construction with sliding wicket screen located to give access to cam locking handle. Screen fixed, secured in position by bottom corner clips and jamb clips with knurled head screws.

SECURITY TYPE WINDOWS (Details at Right, Page 9)—Screens are Tubular Frame construction attached outside and secured with bottom and top clips.

PIVOTED WINDOWS (Details Page 11)—Screens for Pivot Type Windows consist of two flat screens of Tubular Frame construction, the lower screen is placed on the inside and the upper screen on the outside, both stationary attached with clips for easy removal and storage. The bottom rail of the upper screen frame and the top rail of the lower screen frame are rounded to allow freedom of movement at contact with the screening rolls attached permanently at the pivot line of the vent when opening and closing. These screens eliminate the cumbersome cage type screen used in the past.

DOUBLE HUNG WINDOWS (Details Page 6).

SCREEN DOORS (Details Page 13)—Ceco Screen Doors are of Hollow Metal Frame construction, of steel, bronze, or aluminum furnished with hardware as specified. Door panels are fitted with Tubular Frame Screens of metal specified. Lower screen panel is protected by a grille fastened between door stiles and rails and the screen. Screens can be removed and storm panels substituted if desired.

HARDWARE AND FITTINGS (Details Pages 14 and 15)—Here are illustrated various items of Ceco Standard Screen Hardware and Fittings adapted to Ceco Screen installations. Complete hardware and fittings best adapted to each type of screen installation are furnished whether definitely specified or not.

SUGGESTED ARCHITECT'S SPECIFICATIONS

GENERAL—All exterior openings shall have Ceco (a) Steel, (b) Bronze, (c) Aluminum, metal frame screens as manufactured by Ceco Steel Products Corporation, 5701 West 26th Street, Chicago, Illinois.

Screen frames shall be not less than $\frac{1}{8}$ " x 1". Screens more than 6 feet in height or 20 square feet in area shall have screen frame members $\frac{1}{8}$ " x $1\frac{1}{2}$ ".

All screen frames, cross rails and center stiles shall be rewirable. Frames shall be completely welded at all corners and all welds ground smooth. Screen cloth shall be stretched taut in frames and held in place with removable metal splines.

FRAME—(a) Screen frames shall be manufactured of electro-galvanized or bonderized copper bearing steel not less than .032" thick of tubular construction and finished in two (2) coats baked enamel.

(b) Screen frames shall be manufactured of commercial bronze, not less than .032" thick in natural finish—(statuary finish).

(c) Screen frames shall be of tubular extruded aluminum reinforced with cross web $\frac{1}{8}$ " thick. Aluminum alloy shall be tempered for strength and hardness with tensile strength of not less than 45,000 pounds per square inch. Frames shall have a satin wire brush finish.

NOTE: Screen frames for steel casements and projected windows are usually furnished as a standard in $\frac{1}{8}$ " x $\frac{5}{8}$ " tubular section No. S1 or open section No. 35.

SPLINE—(a) Spline shall be manufactured of cold-rolled copper bearing steel electro-galvanized or bonderized not less than .026" thick, finished to match screen frame.

(b) Spline shall be manufactured of cold-rolled commercial bronze not less than .026" thick finished to match screen frame.

(c) Spline shall be manufactured of cold-rolled sheet aluminum not less than .032" thick in natural finish (statuary finish).

SCREEN CLOTH—(a & b) Screen cloth shall be not less than 16 mesh .0113" diameter commercial bronze antique finish.

(c) Screen cloth shall be 16 mesh .0113" diameter aluminum (bright finish) (dark finish).

(*) **NOTE:** Screen cloth can be furnished in 18 mesh, .0113" diameter or 16 mesh .015" diameter from stock. Finer mesh cloth can also be furnished when desired and specified.

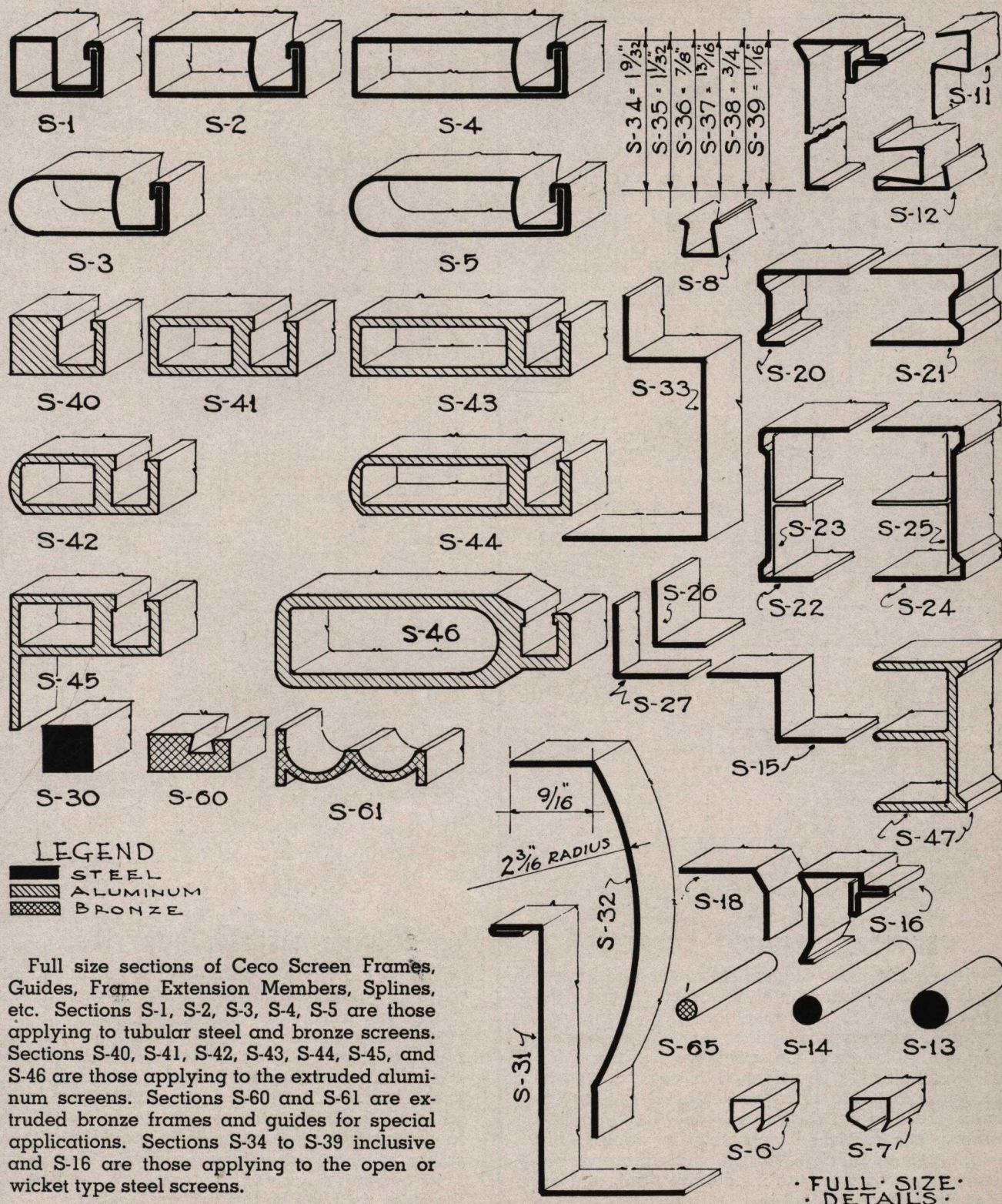
HARDWARE—All hardware and fittings (lifts, handles, pivots, catches, etc.) shall be of non-ferrous metal or cadmium plated steel.

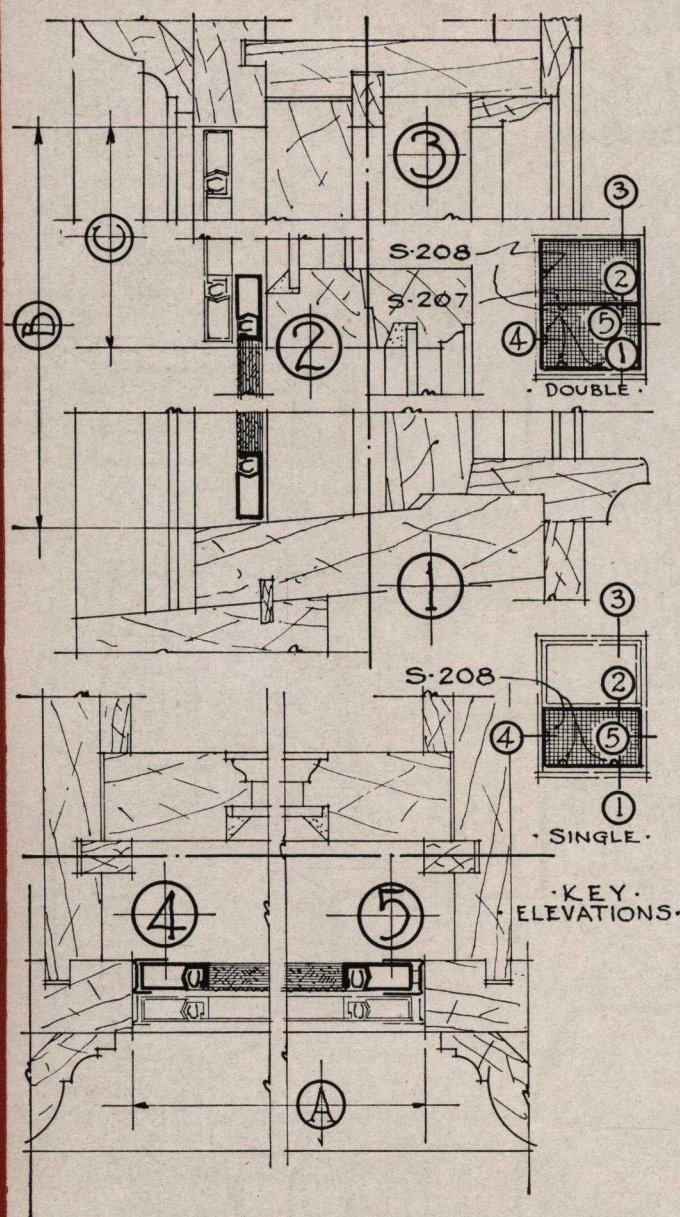
NUMBERING—Suitable duplicate identification numbers shall be placed on screens and window openings.

ACCESSORIES—All screens shall be furnished complete with all necessary accessories for convenient attachment and operation.

NOTE: The architect should specify any out-of-the-ordinary conditions to be met requiring special or additional accessories. Shop drawings and samples will be submitted for approval when necessary.

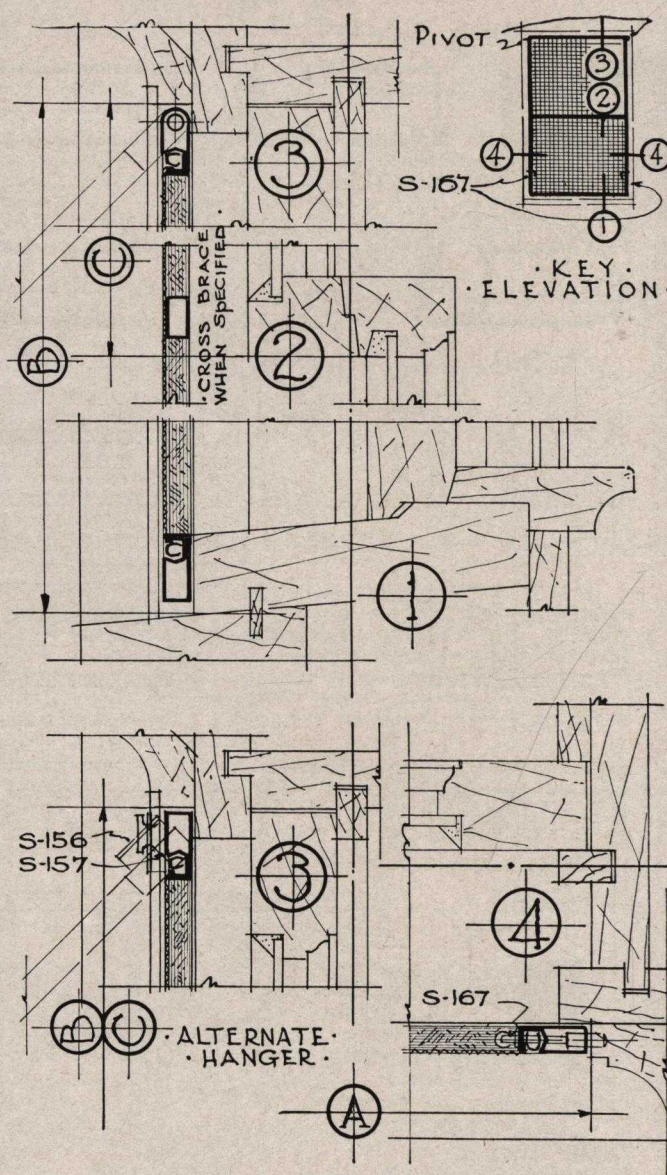
4 SCREENS FOR WINDOWS AND DOORS—ARCHITECT'S SPECIFICATIONS





VERTICAL SLIDING SCREENS

Obviously the most economical method of screening is the half vertical sliding screen covering the lower portion of the opening. The opening is equipped with channel guides on both jambs running the full height of the opening. Either the upper or lower half may be screened as desired. Where the entire opening is to be screened and a top-hung screen is not desirable, twin vertical sliding screens are furnished operating in double, full height channel guides. Vertical sliding screens are easily removed from the inside, are light, and occupy little space in storage.

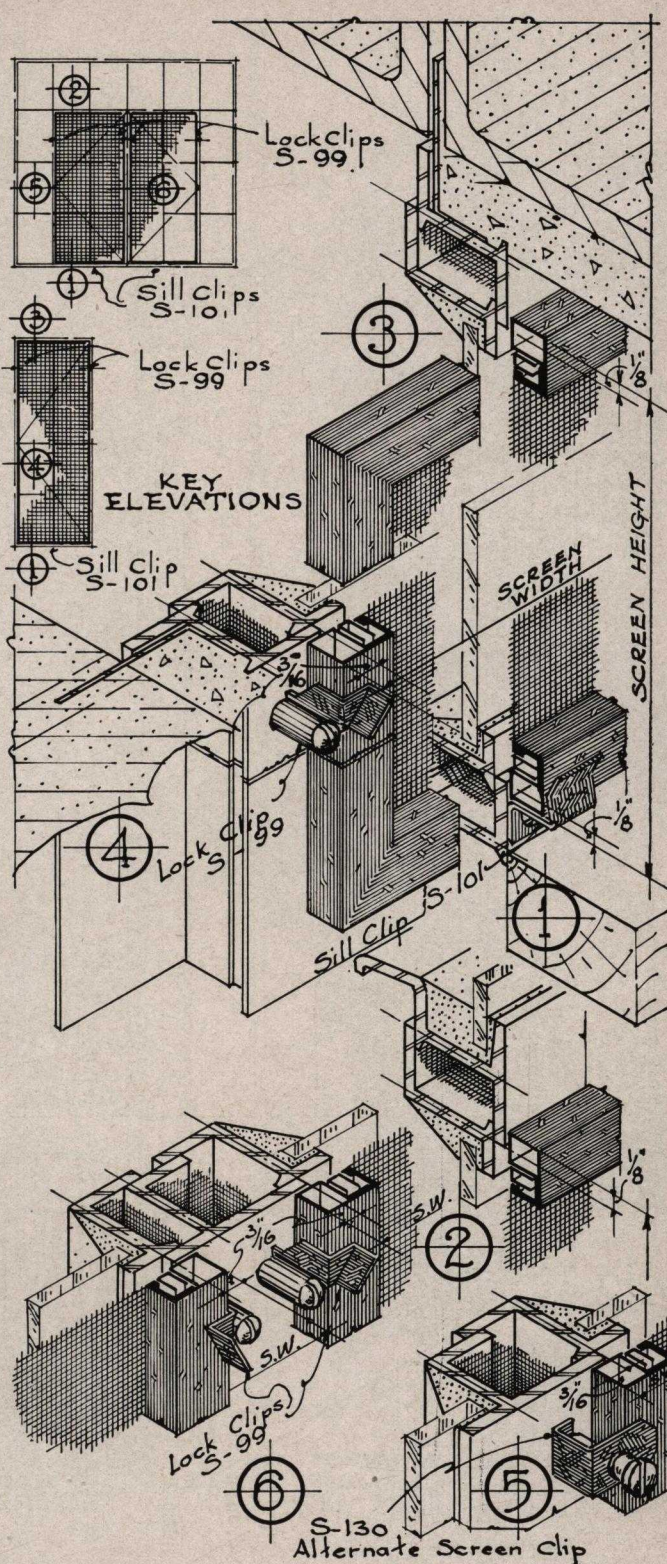
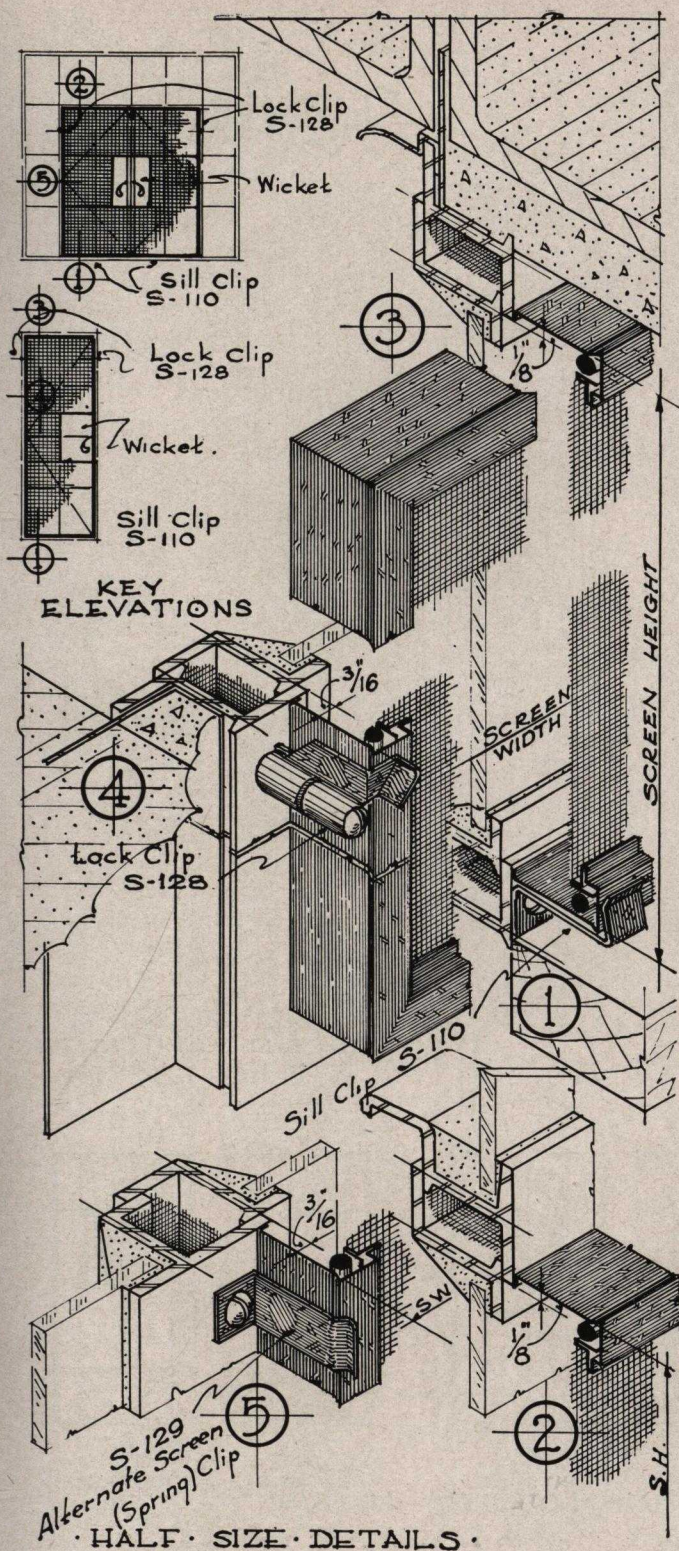


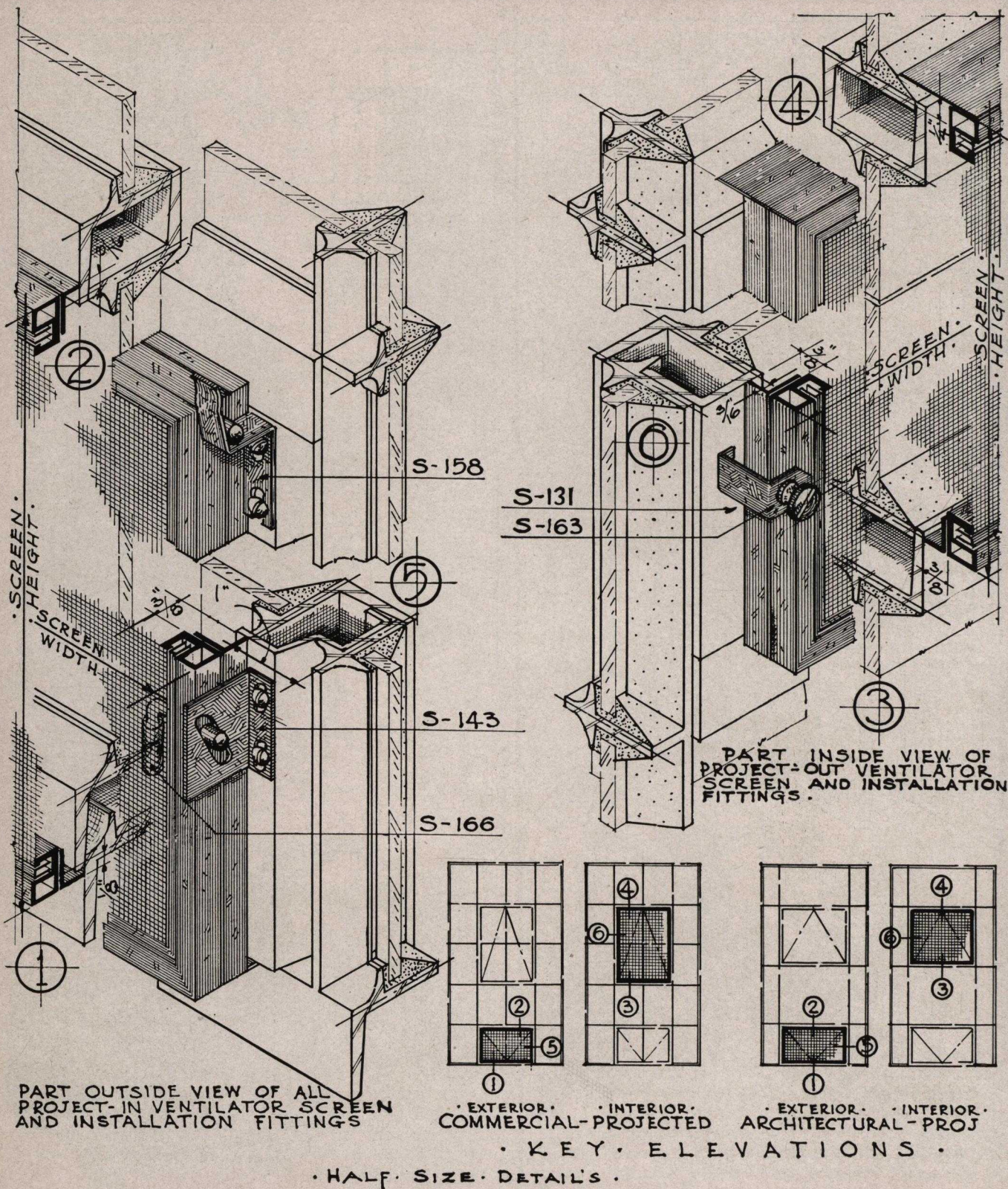
FULL HEIGHT SCREENS

Where the entire opening is to be screened and there is nothing to interfere with the operation of the screen frame, the most economical and commonly used installation is the top-hung type. This type can either be hung on pivot pins with all hardware flush with screen frame (advantageous for storing) or hung with top hangers interchangeable with the ordinary storm sash hardware. When hung on pivot pins, one side is provided with an easily operated trigger spring pivot. Two spring bolts or other approved hardware are furnished in the stiles near the bottom rail for locking.

6 SCREENS FOR DOUBLE-HUNG WINDOWS

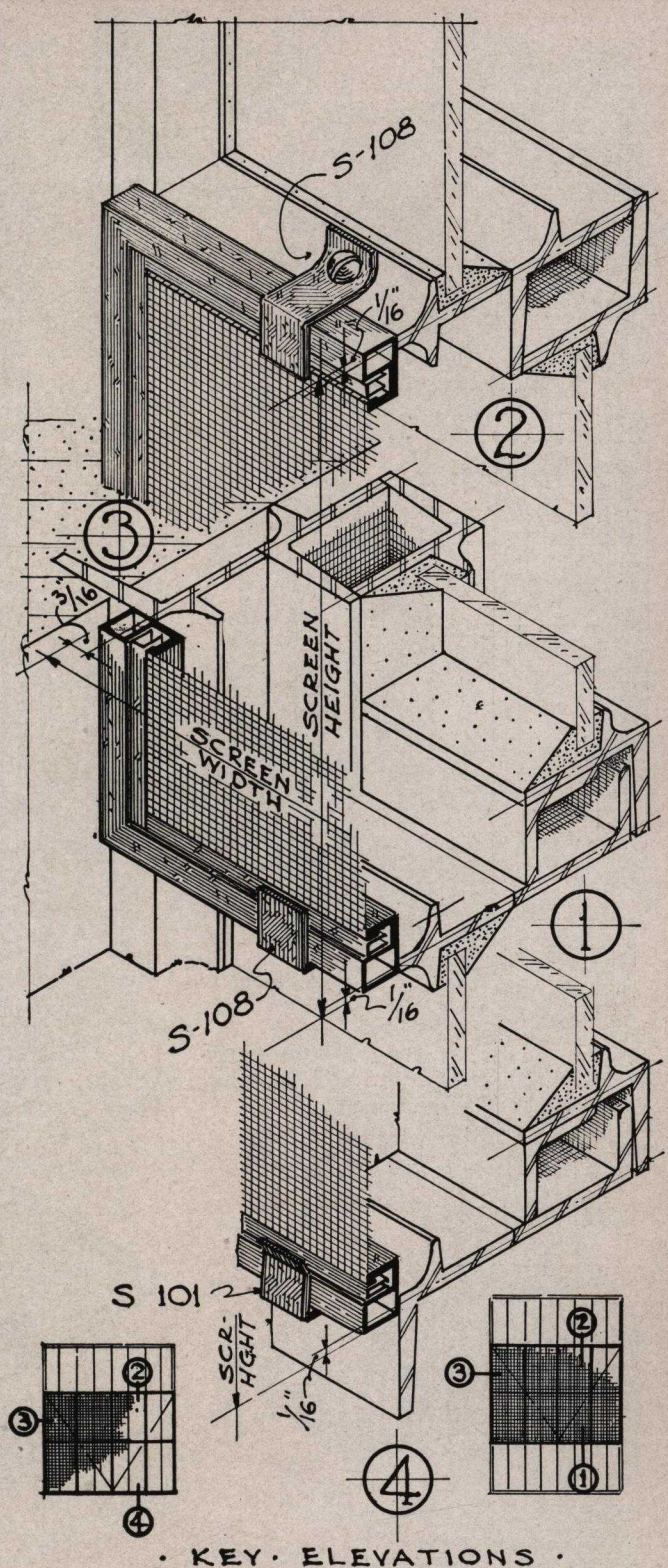
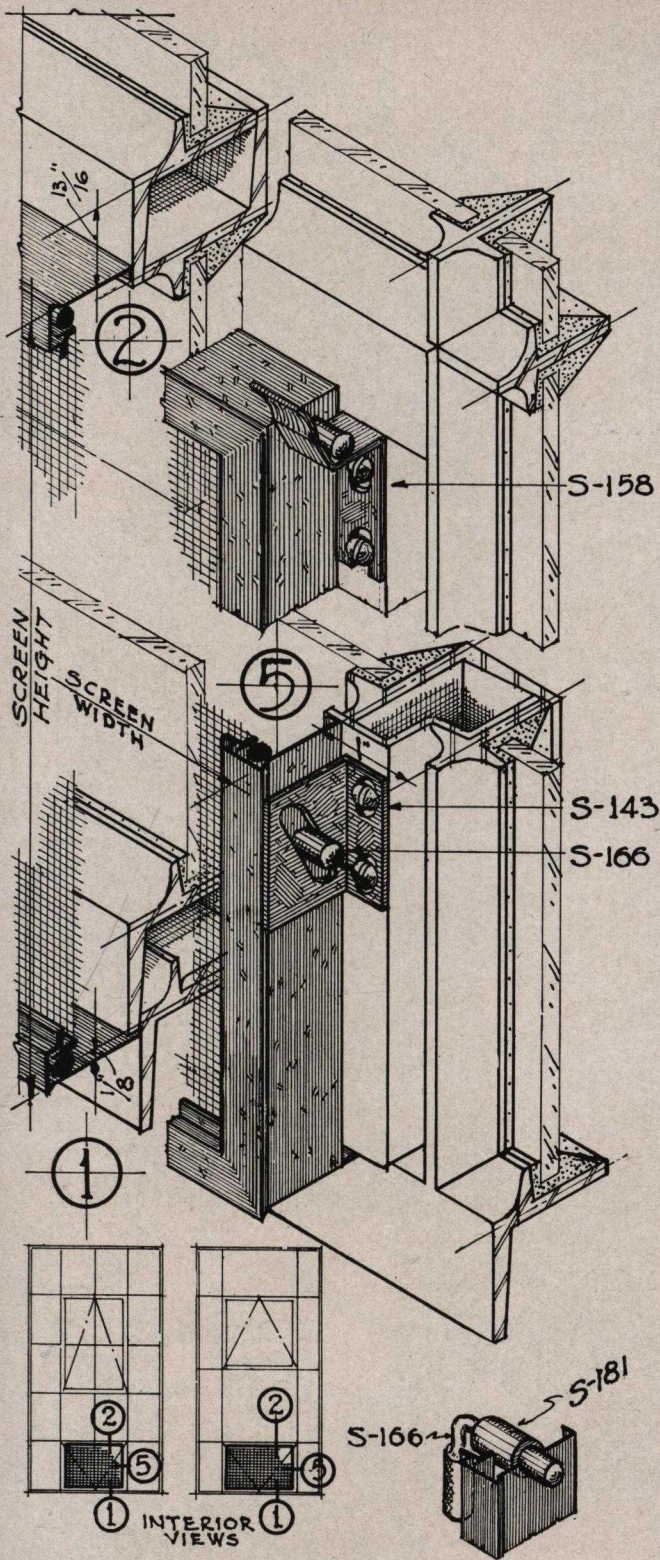
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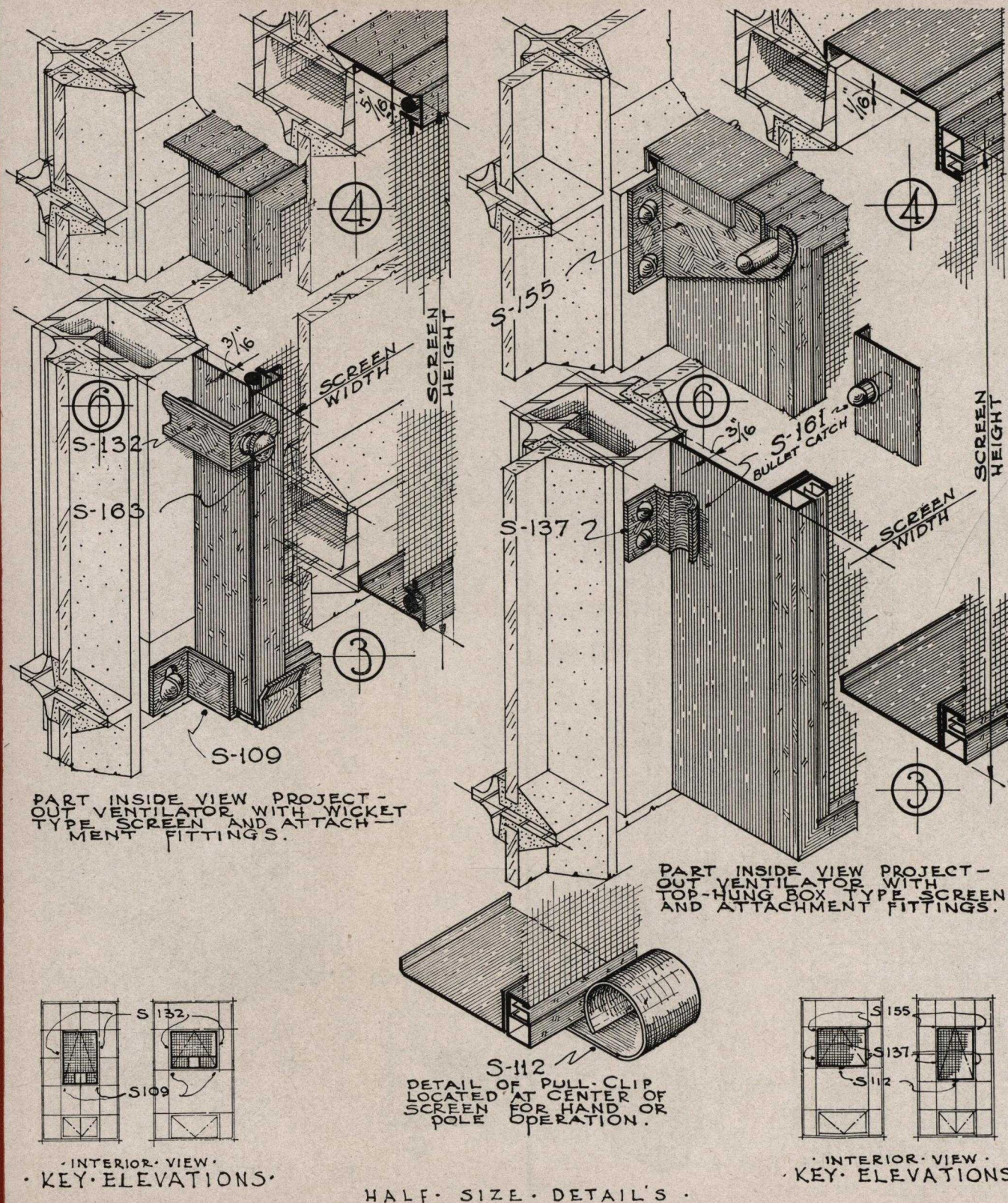




8 STEEL PROJECTED WINDOW SCREENS

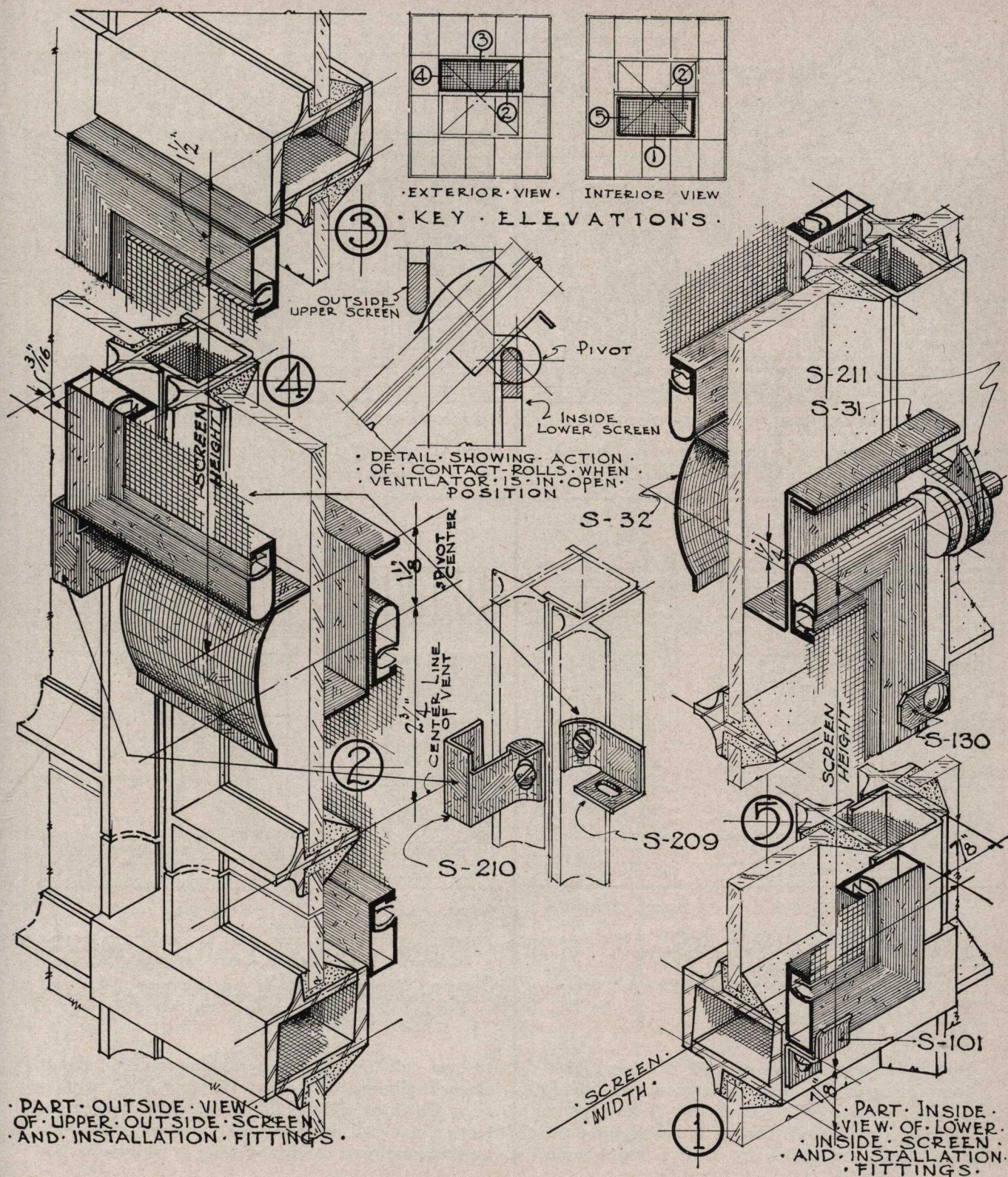
ENGINEERING MAKES THE BIG DIFFERENCE IN **CECO** CONSTRUCTION PRODUCTS

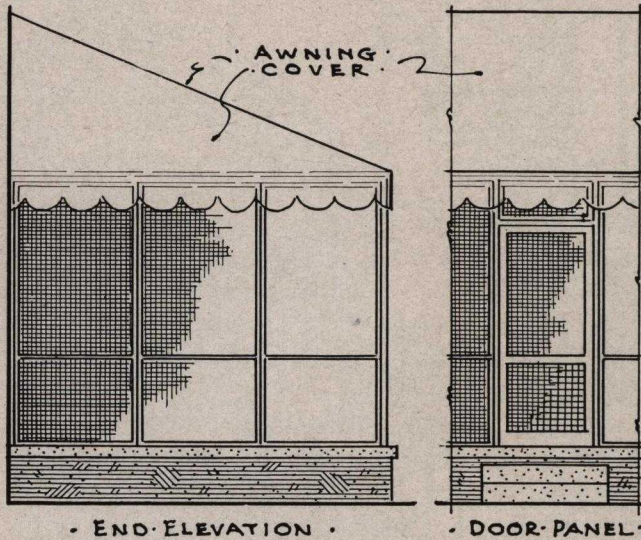




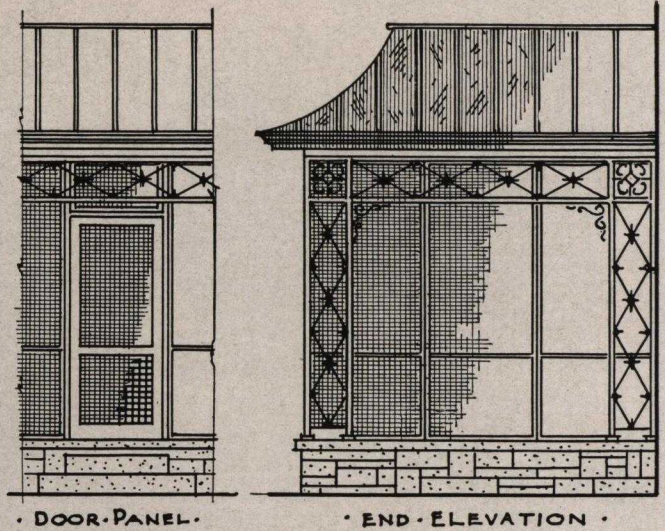
10 STEEL PROJECTED WINDOW SCREENS

ENGINEERING MAKES THE BIG DIFFERENCE IN **CECO** CONSTRUCTION PRODUCTS

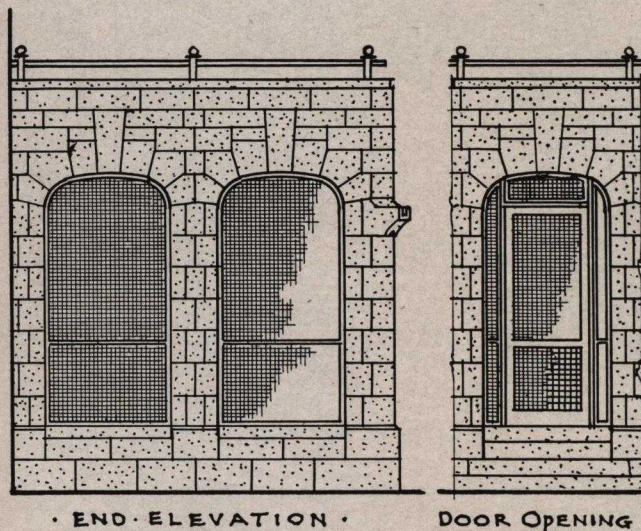




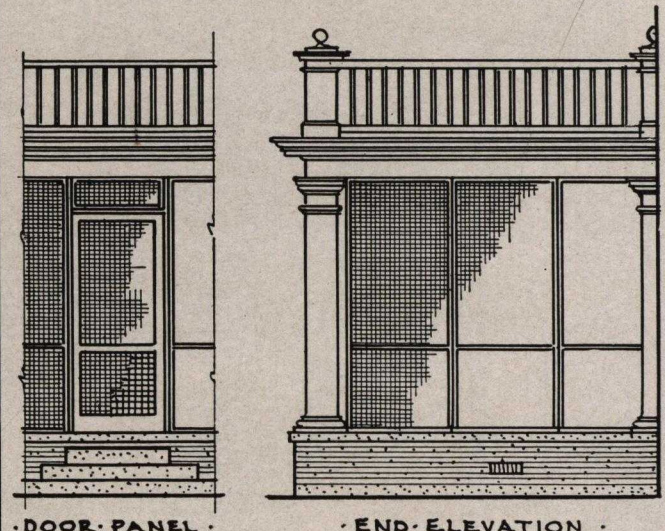
• END ELEVATION •
• DOOR PANEL •
• OPEN TERRACE SCREEN ENCLOSURE •
• FRAME CONSTRUCTION VARIABLE •



• DOOR PANEL •
• END ELEVATION •
• OPEN PORCH SCREEN ENCLOSURE •
• ORNAMENTAL IRON CONSTRUCTION •



• END ELEVATION •
• DOOR OPENING •
• ARCHED OPENING SCREEN ENCLOSURE •
• BRICK OR STONE CONSTRUCTION •



• DOOR PANEL •
• END ELEVATION •
• OPEN PORCH SCREEN ENCLOSURE •
• WOOD OR STONE CONSTRUCTION •

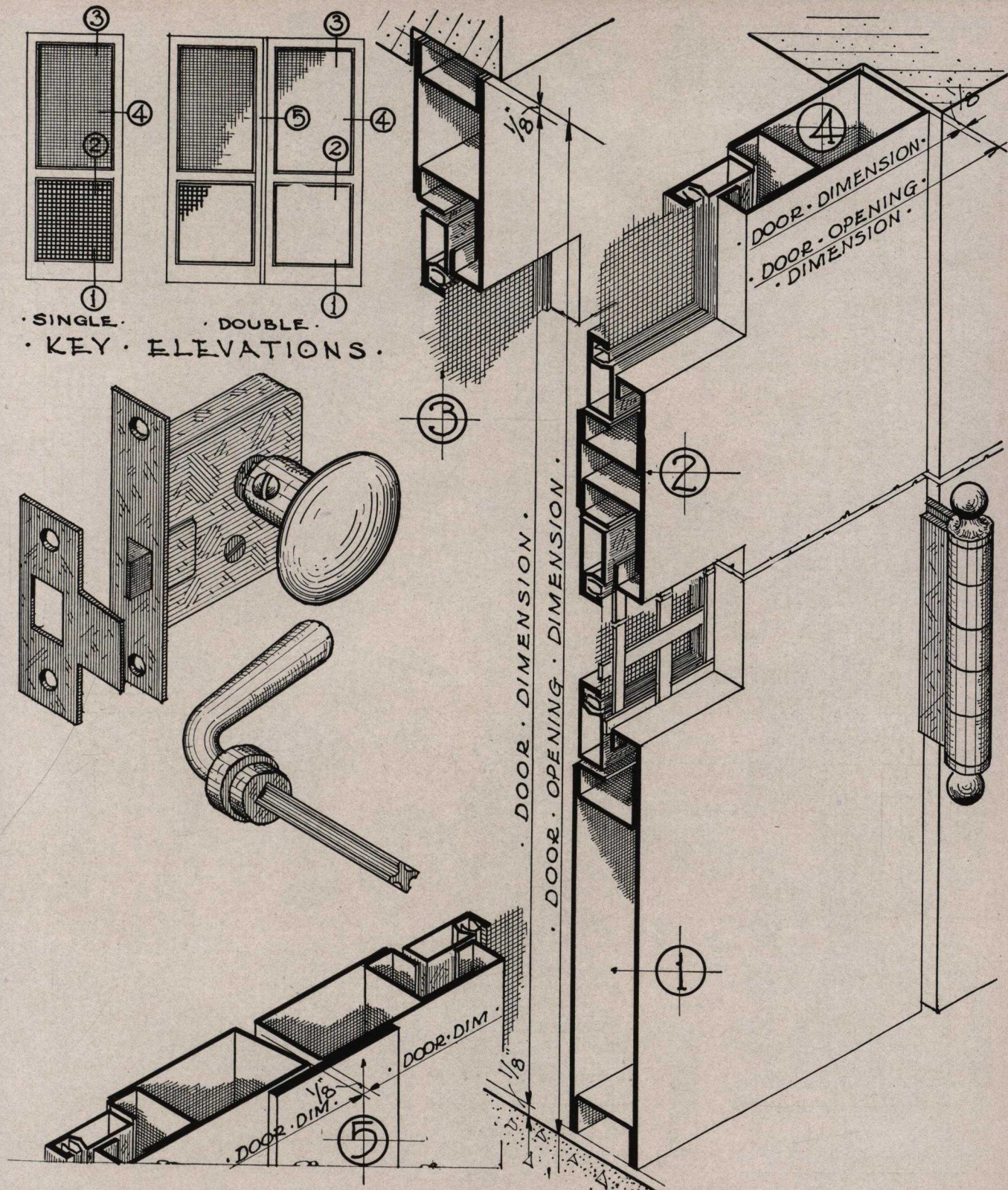
NOTE: SCREENS CAN BE SET ON CENTER OF COLUMNS OR DESIGNED TO SET ON INSIDE TO CLEAR COLUMNS.

Due to the great variety of types of screen installations for open porches and terraces, no attempt has been made to show them all. A few typical installations are shown here to illustrate the possibilities. Such installations are always "tailor-made"

to best suit the particular architectural treatment. Ceco Engineers will submit for approval complete shop drawings and details upon receipt of the architect's plans and porch details. Frame sections can be manufactured of bronze, steel or aluminum.

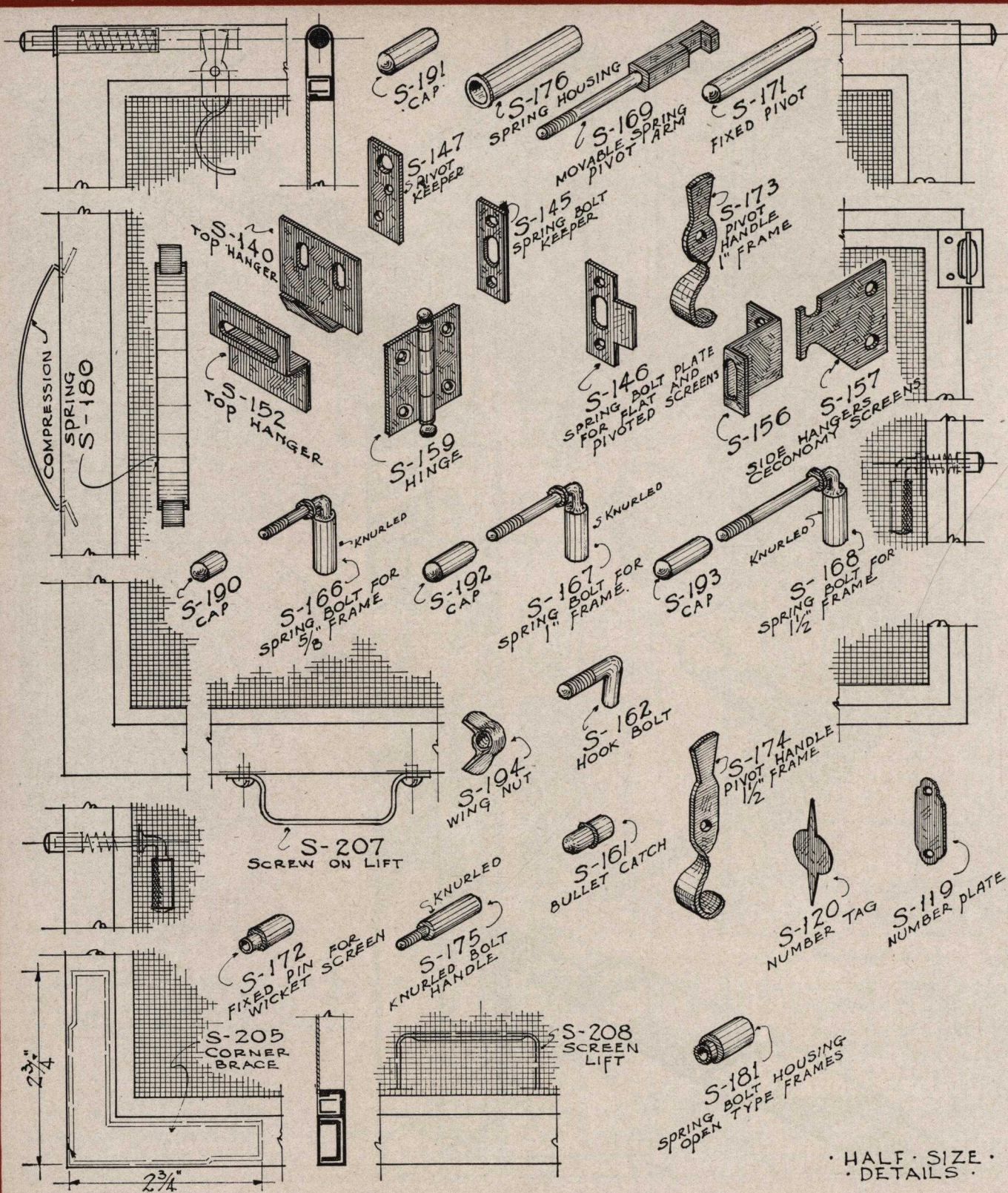
12 OPEN PORCH AND TERRACE SCREENS

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HOLLOW METAL SCREEN DOORS **13**

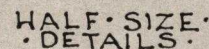
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• HALF SIZE •
• DETAILS •

14 STANDARD HARDWARE AND FITTINGS

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